

Work Order ID 73874

Friday, September 16, 2011 2:51:00 PM

Page 1

Item ID: D206-642-151

Accept

Setup Start

Revision ID:

Stop

Item Name: Replacement Skidtube

Start Date: 9/16/2011 Start Qty: 1.00

Cust Item ID:

Required Date: 10/21/2011 Req'd Qty: 1.00

Customer:

Reference:

Approvals:

Process Plan: MF

Date: 11-09-19

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run Start

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

Draw Nbr

Revision Nbr

D3804

A

IIN-D206-642

O

100

0.00



DOCUMENT CONTROL

DC

0.00

Memo

Document Control

Photocopy bluefile & type labels per PPP D206-642-151

CHG001

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Sequence ID/
Work Center IDOperation
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Run Hours

Tool ID

Tool #

Plan
CodeAccept
Qty.Reject
QtyReject
NumberInsp.
Stamp

110

0.00



Skidtubes

0.00

Skidtubes

Memo

1-Debur Fwd edge of tube

2- Remove ridge on inside of Fwd edge of tube as per Dwg D3804

3-Weld Fwd Cap as per Dwg D3804. Use aluminum rod. Grind D2647 to fit as required.

Pick:

Qty. ☐ Part Number ☐ Description ☐ BatchA/R ☐ Aluminum Rod ☐ M114514

4-Grind weld flush to cap on top surface only.

5-Cut Aft end as per dwg D3804 from front of tube and Deburr

6-Remove inner indexing ridge on Aft end of skidtube as per Dwg D3804

7-Open holes for Aft end cap as per Dwg D3804 with #30 Drill Bit using DT8025.

8-Drill pilot holes using Dt8166 & DT8169D & DT9771.

9-Locate DT8732 from inner Aft saddle hole & 3rd crossbolt hole. Insert D3286-1 doubler using DT8732 & D206-642-241-T1, then locating doubler off of 3/16" holes, cleco DT8732 & doubler leaving DT8732 for added support.

10- Drill D3286-1 doubler rivet holes in tube using # 30 drill, spot drilling doubler at the same time.

mo/8

11-a-20

11-09-28

4/09/30

DC

4/10/06

Dart Aerospace Ltd

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Run Start



Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

11-Working from the center out, drill # 30 holes into D3286-1 doubler. Cleco each hole as it is being drilled. Verify angle of holes to accommodate rivet heads.

12-Remove 3/16" cleco's only and open GHW holes to Ø0.500" as per Dwg D3804

13-Remove D3286-1 doublers, identify orientation, deburr, then attach them to the workorder

14-Remove indexing edge using DT8741 as per Dwg D3804

15-C'sink GHW rivet holes as per Dwg D3804

16- Open Aft cap hole #6.
****no wearplate holes for this skidtube****

17-Deburr tube and blow out chips from inside the tube

120



QC

Quality Control

QC6- Inspect dimensions to drawing

0.00

Memo

0.00

DC
11/15/06

DC
11/10/06

S 11/10/10

FD

Dart Aerospace Ltd

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QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/
Work Center IDOperation
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Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

140

Chemical Conversion Coat per QSI005 4.1

0.00



HandFinish

Memo

0.00

Hand Finishing

Handwritten signature and date: 11/10/12

150

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

Handwritten signature and date: 11-10-12

Handwritten circled '1'

160

Skidtubes

0.00



Skidtubes

Memo

0.00

Skidtubes

1-Open holes to finished size as per Dwg D3804, (without cutting fluid)

2-C'sink crossbolt spacer holes as per Dwg D3804(without cutting fluid)

3-Deburr and blow out all chips from inside the tube

Handwritten signature and date: 11/10/12

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
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Stop



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

170

QC6- Inspect dimensions to drawing

0.00



QC

Memo

0.00

Quality Control

DP

11-10-12

180

Skidtubes

0.00



Skidtubes

Memo

0.00

Skidtubes

1-Locate, install and rivet doublers as per Dwg D3804. Micro-shave rivets as required

SC 11/10/12

2-Bond D2654-3 web in place as per QSI 015. Ensure holes line up. Allow 12 Hrs. cure time before cutting

Start Date: ☐ 11/10/12 ☐ Time: ☐ 4:00 ☐

Finish Date: ☐ 11/10/13 ☐ Time: ☐ 4:30 ☐

Pick:

Qty ☐ Part Number ☐ Description ☐ Batch

A/R ☐ Sikaflex-291 ☐ 118 593 ☐

Sikaflex expire date: ☐ 12/04/05

Dart Aerospace Ltd

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QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

190

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

1 0 BE 11/10/13

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

200

0.00



Skidtubes

Skidtubes

Memo

0.00

Skidtubes

1-remove alodine from around hole and prepare for welding

2-Prep per QSI 005 and Insert D2649 crossbolt spacers. Weld as per QSI 004 and Dwg D3804. Remember to back drill each hole to 0.25" before welding the other side. Use aluminum rod.

Pick:

Qty ☐ Part Number ☐ Description ☐ Batch
A/R ☐ Aluminum Rod ☐ m117884

3-Grind welds flush as per Dwg D3804.

4-Using DT8733, insert (2) D3286-3 spacers as per QSI 004 and Dwg D3804. Remember to back drill each hole to Ø0.402" before welding other side. Use SS rod as required.

A/R ☐ SS Rod ☐ NONE

5-Counterbore 5/16" x 0.750" deep except 7th hole from Aft end as per Dwg D3804. Deburr

BE 11/10/13

DP

11-10-14

DP

11-10-14

Dart Aerospace Ltd

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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

210

0.00



HandFinishing

HandFinish

Memo

0.00

Hand Finishing

Install D2680-041 Nut Plate as per Dwg D3804

11-10-14

220

0.00



QC10- Inspect visual per QSI004- ground welds

QC

Memo

0.00

Quality Control

Sulco107

acc

11.10.17

230

0.00



QC5- Inspect part completeness to step on W/O

QC

Memo

0.00

Quality Control

Sulco107

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
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Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

240 Pressure Wash per QSI005 4.3 0.00



HandFinish

Memo

Hand Finishing

0.00

IX Ø M-f 11/10/17

250 White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum 0.00



Powdercoat

Powder Coating

Memo

START TIME:
OVEN TEMPERATURE:
FINISH TIME:

*1:00
320 OF
T=30*

0.00

IX Ø M-f 11/10/17

260 QC3- Inspect Part Finish 0.00



QC

Memo

0.00

Quality Control

1hH Ø M 11/10/18

M 117745

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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LT



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Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

270

0.00



HandFinishing

HandFinish

Memo

0.00

Hand Finishing

1-Install D2651-3 O-Rings on D2651-1 plugs with Petroleum Jelly and install plugs as per Dwg D3804. Clean excess adhesive.

164 8 96 11/10/18

280

0.00



HandFinishing

HandFinish

Memo

0.00

Hand Finishing

1-Install D2646 Aft Cap and seal with Sikaflex. Clean excess adhesive

A/R ☐ Sikaflex-291 ☐ 14118383

Sikaflex expire date: ☐ 12/03

2- Install wearplate as per dwg

2-Wing Walk as per Dwg D3804 and QSI 005 4.4

Batch: 14118383

164 8 96 11/10/18

Dart Aerospace Ltd

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QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

290

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

300

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

310

Packaging

0.00



Packaging

Memo

0.00

Packaging

Identify and pack for shipping as per PPP D206-642-151

Location:

PPP Rev: PPR437

(40)

Signature

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
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Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

320

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

11/10/19

mf 11-10-19

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
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Picklist Print

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Page 1

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Parent Item: D206-642-151



Parent Item Name: Replacement Skidtube

Start Date: 9/16/2011

Required Date: 10/21/2011

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP REV:A 10.12.08 PER IIN REV.N DD VERF:EC
REV:B 11.09.16 PER IIN REV.O DD VERF:EC

IPP

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D2620

Manufactured

No

110

Each

12.0000

1

1



Skidtube, 206 Skidtube

Location

Loc Qty

Loc Code

LG

73788

12

68136

1

71616

5

71617

6

D2647

Manufactured

No

110

Each

44.0000

1

1



Cap

Location

Loc Qty

Loc Code

LG002

55352

44

71171

14

71171

30

CR3212-4-04

Purchased

No

180

Each

1,655.000

52

52



Cherry Rivet

Location

Loc Qty

Loc Code

ST311

116471

1655

117816

78

118686

477

118840

100

118840

1000

1 mo 11-9-26

11.09.29

119017 (52)

01/10/12

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
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Start Date: 9/16/2011

Required Date: 10/21/2011

Start Qty: 1.00

Required Qty: 1.00

D2654-1 Manufactured No

180 Each

6.0000

1 1



Web

Location

Loc Qty

Loc Code

LG

64562

6

6

180 Each

32.0000

2 2

D3286-1 Manufactured No



Doubler

Location

Loc Qty

Loc Code

LG002

52844

64563

32

11

21

200 Each

289.0000

19 19

D2649 Manufactured No



Cross Bolt Spacer

Location

Loc Qty

Loc Code

LG

68224

71355

72704

6

2

2

2

LG001

65317

68507

73390

283

1

11

271

200 Each

27.0000

2 2

D3286-3 Manufactured No



Spacer

Location

Loc Qty

Loc Code

LG002

64564

27

27

Friday, September 16, 2011 2:50:57 PM

Shop Packet Print

Page 2

73860

①

74111 ②

DL
11/10/12

BE 11/10/13
B73857 *16
B72841 *3

BE 11/10/14
B74117 *2

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Friday, September 16, 2011 2:50:57 PM

Work Order ID: 73874

Parent Item: D206-642-151

Parent Item Name: Replacement Skidtube

Start Date: 9/16/2011

Required Date: 10/21/2011

Start Qty: 1.00

Required Qty: 1.00

D2680-041 Manufactured No

210

Each

19.0000

1

1



Nut Plate

Location

ST020

73334

Loc Qty

19

55366

17

70088

2

Loc Code

①

②

11-10-14

CR3212-4-03 Purchased No

210

Each

1,138.000

2

2



Cherry Rivet

Location

FP-B

110139

Loc Qty

2

2

ST311

114859

1136

1136

Loc Code

②

③

11-10-14

AN960JD416 NAS1149D0463J Purchased No

210

Each

0.0000

1

1



Washer

CCR264SS3-3 Purchased No

210

Each

435.0000

2

2



Cherry Rivet

Location

FP-B

113973

Loc Qty

2

2

ST311

117086

433

117849

23

410

Loc Code

②

③

11-10-14

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Friday, September 16, 2011 2:50:58 PM

Work Order ID: 73874



Parent Item: D206-642-151



Parent Item Name: Replacement Skidtube

Start Date: 9/16/2011

Required Date: 10/21/2011

Start Qty: 1.00

Required Qty: 1.00

MS27039-4-06

Purchased

No

210

Each

29.0000

1

1



yl ulio18

Screw

Location

Loc Qty

Loc Code

FP-A

8

M119124

x1

115460

8

ST292

21

115460

21

D2651-1

Manufactured

No

270

Each

289.0000

6

6



yl ulio118

Plug

Location

Loc Qty

Loc Code

fpa

109

69018

109

FP-A

180

57869

1

66445

10

67760

36

70691

100

70839

2

71037

31

x6

D2651-3

Manufactured

No

270

Each

799.0000

6

6



yl ulio118

O-Ring

Location

Loc Qty

Loc Code

FP-A

799

61962

12

66956

282

73489

505

x6

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Picklist Print

Friday, September 16, 2011 2:50:58 PM

Work Order ID: 73874

Parent Item: D206-642-151

Parent Item Name: Replacement Skidtube

Start Date: 9/16/2011

Required Date: 10/21/2011

Start Qty: 1.00

Required Qty: 1.00

D3873-1

Manufactured No

280

Each

160.0000

14

14



Bushing



Handwritten: 14 9/10/11

Location

Loc Qty

Loc Code

ST084

4

B73829

Handwritten: x14

68247

4

ST088

156

64760

1

70690

54

71837

101

D2646

Manufactured No

280

Each

89.0000

1

1



Aft Cap



Handwritten: 1 9/10/11

Location

Loc Qty

Loc Code

FP004

45

68280

45

Handwritten: x1

FP006

5

62678

5

FP-4

35

70945

1

71070

34

fp5

4

71038

4

D3805-041

Manufactured No

280

Each

0.0000

1

1



Wearplate Assembly Fwd, Low Gear



Handwritten: B74448

Handwritten: (x1) 9/10/11

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Friday, September 16, 2011 2:50:58 PM

Work Order ID: 73874

Parent Item: D206-642-151

Parent Item Name: Replacement Skidtube

Start Date: 9/16/2011

Required Date: 10/21/2011

Start Qty: 1.00

Required Qty: 1.00

MS27039-1-08

Purchased

No

280

Each

1,296.000

2

2



Screw



Handwritten: 11/10/18

Location

Loc Qty

Loc Code

ST291

1296

115108

96

117423

300

118378

400

118910

500

Handwritten: y2

MS21042L3

Purchased

No

280

Each

2,603.000

7

7



Nut



Handwritten: 11/10/18

Location

Loc Qty

Loc Code

ST300

2603

117441

24

117601

374

117885

205

118451

1000

118927

1000

Handwritten: y7

D3805-045

Manufactured

No

280

Each

6.0000

1

1



Wearplate Assembly Aft, Low Gear



Handwritten: 13 73820

Handwritten: 11/10/18

Location

Loc Qty

Loc Code

FP

6

70878

6

AN960JD10L

NAS1149D0332J

Purchased

No

280

Each

0.0000

2

2



Washer



Handwritten: 11/7 087

Handwritten: 11/10/18

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Friday, September 16, 2011 2:50:58 PM

Page 7

Work Order ID: 73874

Parent Item: D206-642-151

Parent Item Name: Replacement Skidtube

Start Date: 9/16/2011

Required Date: 10/21/2011

Start Qty: 1.00

Required Qty: 1.00

AN3-37A

Purchased

No

280

Each

261.0000

7

7



Bolt



M 11/10/11

Location

Loc Qty

Loc Code

ST353

211

111668

111

118628

100

ST354

50

117619

50

✓

NAS1149D0363J

Purchased

No

280

Each

2,623.000

7

7



Washer



M 11/10/11

Location

Loc Qty

Loc Code

ST298

2623

117601

308

118077

1315

118612

1000

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

ITEM	Qty -041	Qty -043	Part Number	Description
1	X		D3804-041	SKIDTUBE ASSEMBLY, 206 A/B LOW
2		X	D3804-043	SKIDTUBE ASSEMBLY, 206 A/B HIGH
5	1	1	D2600-1-160	EXTRUSION
6	1	1	D2646	AFT CAP
7	1	1	D2647	CAP
8	19	20	D2649	CROSS BOLT SPACER
9	6	8	D2651-1	PLUG
10	6	8	D2651-3	O-RING
11		1	D2654-3	WEB
12	1		D2654-1	WEB
13	1	1	D2680-041	NUT PLATE
14	2	2	D3286-1	DOUBLER
15	2	2	D3286-3	STUD
21	2	2	AN960JD10L	WASHER
22	1	1	AN960JD416	WASHER
23	2	2	CCR264SS3-3	RIVET
24	2	2	CR3212-4-03	RIVET
25	52	52	CR3212-4-04	RIVET
26	2	2	MS27039-1-08	SCREW
27	1	1	MS27039-4-06	SCREW

NOTES

- 1) MATERIAL: N/A
- 2) FINISH: -CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
-POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 3) BLACK ANTI-SKID PAINT AS INDICATED TO 0.5 ABOVE LOCATION RIDGE PER DART QSI 005 4.4
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) UNITS: INCHES UNLESS OTHERWISE NOTED
- 6) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 7) IDENTIFICATION: NONE
- 8) WEIGHT: 12.5 lb
- 9) WELD PER DART QSI 004
- 10) BENDING: DAMAGE TOLERANCE ON FWD BEND:
THERE SHOULD BE NO VISIBLE WRINKLES IN THE BEND FROM THE GROUND TO A HEIGHT OF 5 INCHES ABOVE THE GROUND. IT IS ACCEPTABLE TO POLISH OUT GOUGES UP TO 0.020 DEEP IN THE BENT PORTION OF THE TUBE. A MAXIMUM REDUCTION IN DIAMETER OF 0.150" IS ACCEPTABLE IN THE BENT PORTION OF THE TUBE.
- 11) BOND WEB INTO OUTER TUBE WITH SIKAFLEX-241/-291 ADHESIVE PER DART QSI 015
- 12) INSERT D2651-1 PLUG C/W D2651-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE)

A	NEW ISSUE	MB	08.07.07
REV.	DESCRIPTION	BY	DATE
DESIGN	99	DART AEROSPACE USA, INC	
DRAWN	99	PORT HADLOCK, WA	
CHECKED	99	DRAWING NO.	REV. A
MFG. APPR.	99	D3804	SHEET 1 OF 5
APPROVED	99	TITLE	SCALE
DE APPR.	99	SKIDTUBE ASSEMBLY, 206A/B	NTS
DATE	08.07.07	COPYRIGHT © 2008 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

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UP 09.03.03
per ECN 09-538

72574

Dart Aerospace Ltd

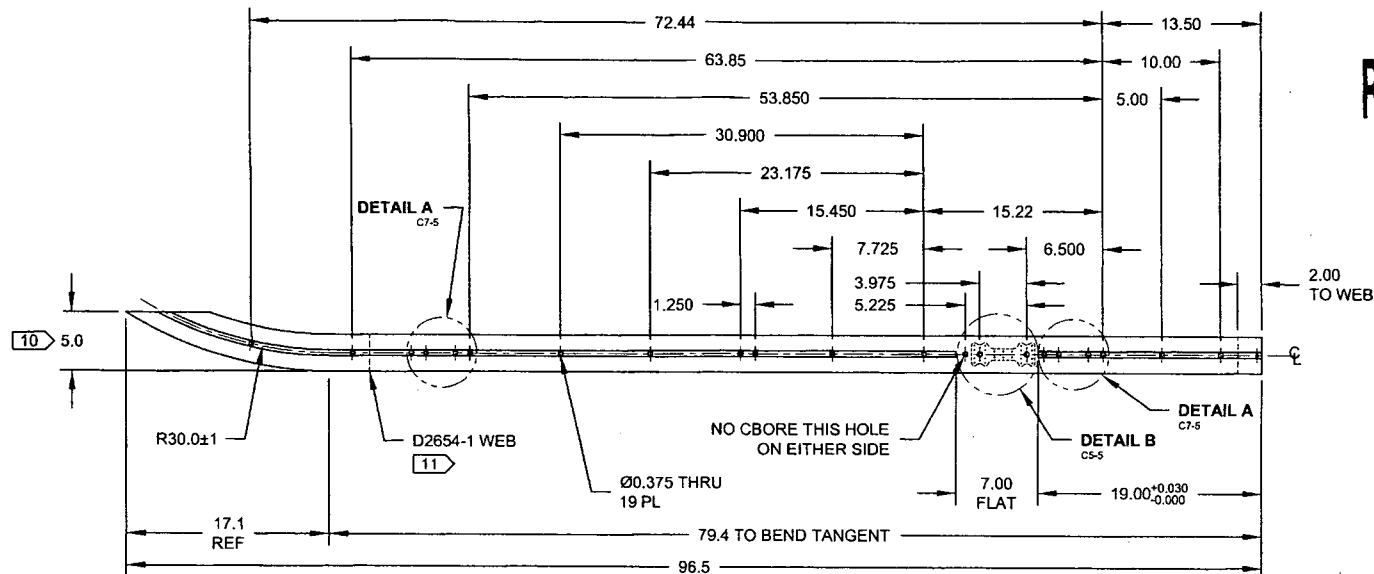
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ **PAR #:** _____ **Fault Category:** _____ **NCR: Yes No** **DQA:** _____ **Date:** _____
Resolution: _____ **Disposition:** _____ **QA: N/C Closed:** _____ **Date:** _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

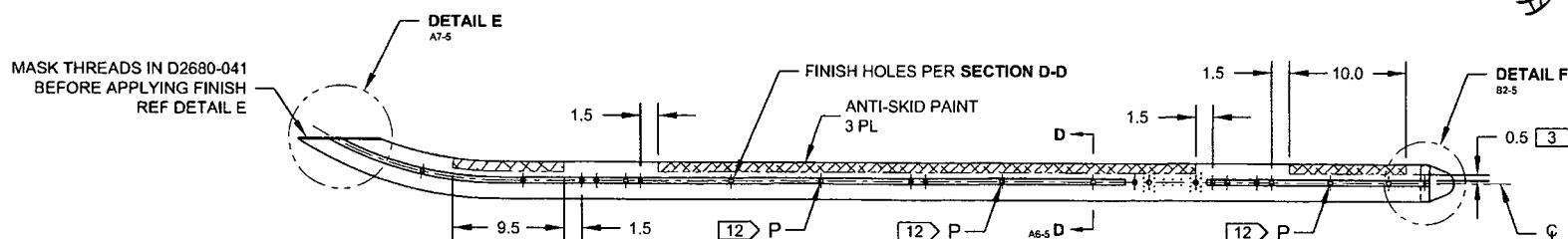
NOTE: Date & initial all entries

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09.03.03



D3804-041 BENDING/DRILLING DETAIL

73874



D3804-041 ASSEMBLY/FINISHING DETAIL

DESIGN	99	DART AEROSPACE USA, INC	
DRAWN	J	PORT HADLOCK, WA	
CHECKED	99	DRAWING NO.	REV. A
MFG. APPR.	BE	D3804	SHEET 2 OF 5
APPROVED	99	TITLE	SCALE
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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Technical drawing of a bridge deck cross-section. The drawing shows a horizontal cross-section with various dimensions and details. Key features include:

- Dimensions:**
 - Overall width: 78.04
 - Distance from centerline to outer edge: 15.50
 - Distance from centerline to inner edge: 10.00
 - Distance from centerline to reinforcement: 5.00
 - Distance from centerline to reinforcement: 30.900
 - Distance from centerline to reinforcement: 23.175
 - Distance from centerline to reinforcement: 15.450
 - Distance from centerline to reinforcement: 14.87
 - Distance from centerline to reinforcement: 7.725
 - Distance from centerline to reinforcement: 3.975
 - Distance from centerline to reinforcement: 5.225
 - Distance from centerline to reinforcement: 1.250
 - Distance from centerline to reinforcement: 6.500
 - Distance from centerline to reinforcement: 7.00 FLAT
 - Distance from centerline to reinforcement: 21.00^{+0.030}_{-0.000}
 - Distance from centerline to reinforcement: 17.1 REF
 - Distance from centerline to reinforcement: 87.0 TO BEND TANGENT
 - Distance from centerline to reinforcement: 104.1
- Details:**
 - DETAIL A C7-S:** Located at the top of the deck, showing reinforcement details.
 - DETAIL B C5-S:** Located at the bottom of the deck, showing reinforcement details.
- Other Labels:**
 - R30.0±1
 - D2654-3 WEB
 - Ø0.375 THRU 20 PL
 - NO CBORE THIS HOLE ON EITHER SIDE
 - 2.00 TO WEB

Technical drawing of a 12-inch diameter pipe section. The drawing includes the following details and dimensions:

- DETAIL E A7-5**: Located at the left end of the pipe section.
- DETAIL F B2-5**: Located at the right end of the pipe section.
- MASK THREADS IN D2680-041 BEFORE APPLYING FINISH REF DETAIL E**: A note pointing to the left end of the pipe.
- FINISH HOLES PER SECTION D-D**: A note pointing to the finish holes along the length of the pipe.
- ANTI-SKID PAINT 3 PL**: A note pointing to the anti-skid paint coating on the pipe.
- 12 P**: Four labels indicating the 12-inch diameter of the pipe at different locations.
- 15.5**: A dimension line indicating a length of 15.5 units.
- 1.5**: Multiple dimension lines indicating a width or spacing of 1.5 units.
- 12.0**: A dimension line indicating a length of 12.0 units.
- 0.5**: A dimension line indicating a width or spacing of 0.5 units.
- A6-5 D**: A label pointing to a specific detail on the pipe.
- Φ**: A symbol indicating the diameter of the pipe.

DESIGN	99	DART AEROSPACE USA, INC	
DRAWN	J	PORT HADLOCK, WA	
CHECKED	99	DRAWING NO.	REV. A
MFG. APPR.	EE	D3804	SHEET 3 OF 5
APPROVED		TITLE	SCALE
DE APPR.	14	SKIDTUBE ASSEMBLY, 206A/B	NTS
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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

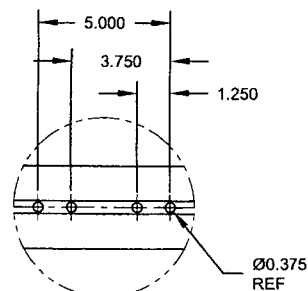
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

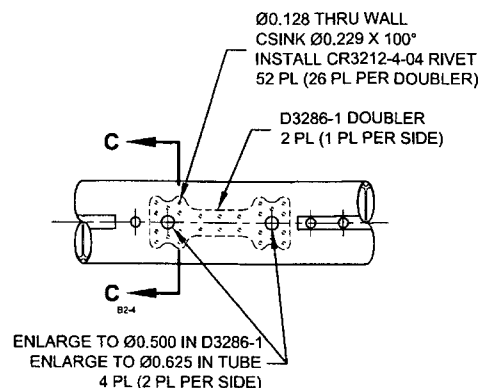
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

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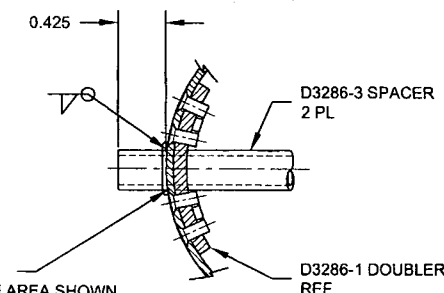
RELEASED
UP 09.03.07



DETAIL A
SCALE NONE

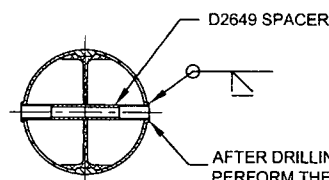


DETAIL B
SCALE NONE



- TO INSTALL D3286-1/3:
1. GRIND OFF FLANGE IN AREA SHOWN, FLUSH WITH OUTSIDE SURFACE OF ROUND TUBE
 2. LOCATE & DRILL D3286-1 DOUBLER USING DT3286-1T1
 3. ENLARGE HOLES IN D3286-1 TO Ø0.500
 4. ENLARGE HOLES IN TUBE TO Ø0.625 AND CHAMFER HOLE 0.03 X 45°
 5. RIVET D3286-1 TO TUBE
 6. INSERT D3286-3 SPACER
 7. WELD IN PLACE AND GRIND FLUSH

SECTION C-C
PARTIAL SECTION
SCALE NONE



SECTION D-D
FOR Ø0.375 HOLES ONLY
SCALE NONE

73874

DESIGN	91	DART AEROSPACE USA, INC	
DRAWN	1	PORT HADLOCK, WA	
CHECKED	1	DRAWING NO.	REV. A
MFG. APPR.	1	D3804	SHEET 4 OF 5
APPROVED	1	TITLE	SCALE
DE APPR.	1	SKIDTUBE ASSEMBLY, 206A/B	NTS
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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

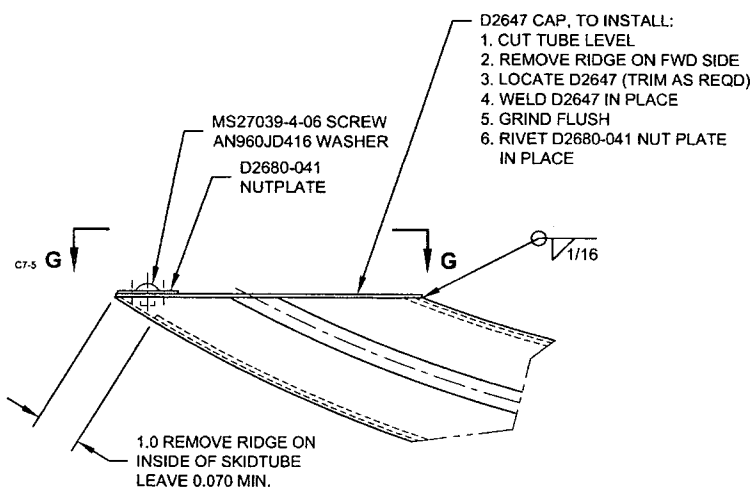
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92 09.03.03



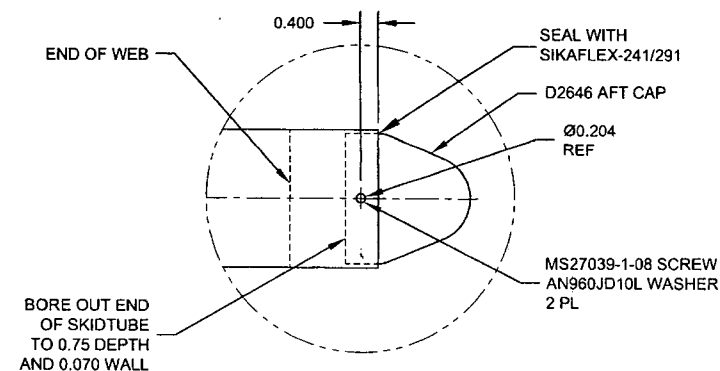
VIEW G-G
SCALE NONE

A7-5



DETAIL E
SCALE NONE

B7-2
B7-3



DETAIL F
SCALE NONE

B2-2
B2-3

73874

DESIGN	91	DART AEROSPACE USA, INC	
DRAWN	91	PORT HADLOCK, WA	
CHECKED	91	DRAWING NO.	REV. A
MFG. APPR.	91	D3804	SHEET 5 OF 5
APPROVED	91	TITLE	SCALE
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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

NO. 272

AWS D17.1.2001
QUALIFICATION TEST RECORD

Name: Barclay Elliott
Job number: 73871
Part number: D 206 - 1042 - 151
Description: 206 skid tube
Welding Process: Tig ☒ Mig ☐
Base material: Aluminum
Current: AC ☒ DC ☐

TEST REQUIREMENTS AND RESULTS

Visual: pass ☒ fail ☐
Penetration: pass ☒ fail ☐

UNACCEPTABLE

Cracks: pass ☒ fail ☐
Undercut: pass ☒ fail ☐
Pin holes: pass ☒ fail ☐
Overlap (cold lap): pass ☒ fail ☐
Porosity (surface): pass ☒ fail ☐
Coloration: pass ☒ fail ☐

Qualifier Sal Dunn Date of Test Coupon 11-10-12
Welder Barclay Elliott Date of Test Coupon 11-10-12

The above named individual is qualified in accordance with AWS D17.1.2001 to weld

